

1. Record Nr.	UNINA9910143610003321
Titolo	Discrete Geometry for Computer Imagery : 9th International Conference, DGCI 2000 Uppsala, Sweden, December 13-15, 2000 Proceedings // edited by Gunilla Borgefors, Ingela Nyström, Gabriella Sanniti di Baja
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2000
ISBN	3-540-44438-6
Edizione	[1st ed. 2000.]
Descrizione fisica	1 online resource (XII, 548 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 1953
Disciplina	006.6/01/516
Soggetti	Application software Computer graphics Optical data processing Natural language processing (Computer science) Algorithms Computer science—Mathematics Computer Applications Computer Graphics Image Processing and Computer Vision Natural Language Processing (NLP) Algorithm Analysis and Problem Complexity Discrete Mathematics in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Topology -- Homotopy in Digital Spaces -- Tesselations by Connection in Orders -- A Concise Characterization of 3D Simple Points -- Digital n-Pseudomanifold and n-Weakmanifold in a Binary (n + 1)-Digital Image -- Digital Jordan Curve Theorems -- A New Means for Investigating 3-Manifolds -- Nearness in Digital Images and Proximity Spaces -- Morphological Operators with Discrete Line Segments -- Hausdorff Discretizations of Algebraic Sets and Diophantine Sets -- Discrete Images -- An Algorithm for Reconstructing Special Lattice Sets

from Their Approximate X-Rays -- A Question of Digital Linear Algebra -- Reconstruction of Discrete Sets with Absorption -- Some Properties of Hyperbolic Networks -- The Reconstruction of the Digital Hyperbola Segment from Its Code -- Determining Visible Points in a Three-Dimensional Discrete Space -- Surfaces and Volumes -- Extended Reeb Graphs for Surface Understanding and Description -- Euclidean Nets: An Automatic and Reversible Geometric Smoothing of Discrete 3D Object Boundaries -- Object Discretization in Higher Dimensions -- Strong Thinning and Polyhedrization of the Surface of a Voxel Object -- Deformable Modeling for Characterizing Biomedical Shape Changes -- Naive Planes as Discrete Combinatorial Surfaces -- Surface Digitizations by Dilations Which Are Tunnel-Free -- Delaunay Surface Reconstruction from Scattered Points -- Go Digital, Go Fuzzy -- Recognition of Digital Naive Planes and Polyhedrization -- Shape Representation -- Topological Encoding of 3D Segmented Images -- Some Weighted Distance Transforms in Four Dimensions -- Representing 2D Digital Objects -- Plane Embedding of Dually Contracted Graphs -- A New Visibility Partition for Affine Pattern Matching -- Morphological Operations on 3D and 4D Images: From Shape Primitive Detection to Skeletonization -- Efficient Algorithms to Implement the Confinement Tree -- A 3D 3-Subiteration Thinning Algorithm for Medial Surfaces -- Computing 3D Medial Axis for Chamfer Distances -- Multiresolution Modelling of Polygonal Surface Meshes Using Triangle Fans -- Detecting Centres of Maximal Geodesic Discs on the Distance Transform of Surfaces in 3D Images -- The Envelope of a Digital Curve Based on Dominant Points -- Shape Representation -- Minimum-Length Polygons in Simple Cube-Curves -- Planar Object Detection under Scaled Orthographic Projection -- Detection of the Discrete Convexity of Polyominoes -- An Efficient Shape-Based Approach to Image Retrieval -- Towards Feature Fusion - The Synthesis of Contour Sections Distinguishing Contours from Different Classes -- Parallel Line Grouping Based on Interval Graphs.

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#### Sommario/riassunto

This book constitutes the refereed proceedings of the 9th International Conference on Discrete Geometry for Computer Imagery, DGCI 2000, held in Uppsala, Sweden in December 2000. The 40 revised papers presented together with two invited papers were carefully reviewed and selected from 62 submissions. The papers are organized in topical sections on topology, discrete images, surfaces and volumes, shape representation, and shape understanding.

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